

SPLIT-1

Work Order ID 164658-1

Thursday, July 27, 2017 11:50:12 AM

647.7703

164658

Page 1

Item ID: 647.7703

REV. A2

Accept

N900040100

Setup Start

NS1

Revision ID:

B 164658

Stop

NS2

Item Name: Strut Assembly

SEP 26 2017

Start Date: 8/3/2017 Start Qty: 4.00

4

Cust Item ID:

Required Date: 9/1/2017 Req'd Qty: 4.00

DAS

4

Customer:

Reference:

DAS

21

13

9-89

Approvals: Process Plan: UM

Date: 17/7/27

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
647.7700	A2								
110	Pick Kit	0.00							
110									
Packaging	Memo	0.08							
Packaging									
120	Weld per dwg A/R 4130 rod Batch: M127925	0.00							
120									
Large Fab	Memo	0.40							
Large Fab	1- ASSEMBLE AND WELD AS PER DWG								
	***IMPORTANT DIMENSION IS 8.35" ***								
130	QC9- Inspect visual per QSI004- Fusion Welds	0.00							
130									
QC	Memo	0.08							
Quality Control									

(4)

DYC
17/08/17

(4)

17.05.19

DAS
9
9-89

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : ☐									

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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Misidentified ☐	Past Due ☐																																																																

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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Date : <u>2017/09/21</u>		Step #: <u>170</u>		QTY Effective : <u>21</u>		MRB (QSI042) Approval																																																																	
Description Work Order Deviation				Disposition		<u>Sit/bs/kl</u>																																																																	
<u>Found qty 12 per white CAD plotting Rough.</u> <u>Re-supply</u>				<u>* Contact Supplier AND Return Part to be RE plotted</u> <u>* RE inspect Part + Receive in</u>		Completed By																																																																	
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OTHER : _____																																																																							

Work Order ID 164658

Thursday, July 27, 2017 11:50:12 AM

164658

Page 4

Item ID: 647.7703 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Strut Assembly
Start Date: 8/3/2017 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 9/1/2017 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200	Identify as per dwg & Stock Location. <i>CK 114</i>	0.00							
200									
Packaging	Memo	0.04		DAS 6 9-88		<i>2</i>		SEP 27 2017	<i>nl</i>
Packaging									
210	QC21- Final Inspection - Work Order Release	0.00							
210									
QC	Memo	0.40							
Quality Control									

17/9/27 *[Signature]*

[Signature] SEP 27 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Picklist Print

Thursday, July 27, 2017 11:50:12 AM

Page 1

Work Order ID: 164658

164658

Parent Item: 647.7703

647 7703

Parent Item Name: Strut Assembly

Start Date: 8/3/2017

Required Date: 9/1/2017

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP REV:A 15.01.07 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
647.7712 *647 7712* Strut Tube		Manufactured	No			110	Each	67.0000	1	4			
					<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>			
					WA001			67					
					160392			67					
647.7713 *647 7713* Strut Thread		Manufactured	No			110	Each	16.0000	1	4			
					<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>			
					WA002			16					
					160398			16					
647.7714 *647 7714* Strut Tube		Manufactured	No			110	Each	44.0000	1	4			
					<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>			
					WA001			44					
					159794			4					
					160715			40					



Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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		OTHER :							



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

ENGINEERING CHANGE NOTICE NO. 05397

SHEET 1 OF 1

DWG NO. 647.7700

REV: A

PREPARED BY

T. CROSS

DATE: 05/02/16

EFFECT ON DWG

☐ INC. ☒ UNINC.

DWG TITLE: STRUT ASSY

APPROVED BY:

ENGR

MFG

QC

EFF:

CURRENT ORDER

REASON: REVISED DIMENSION

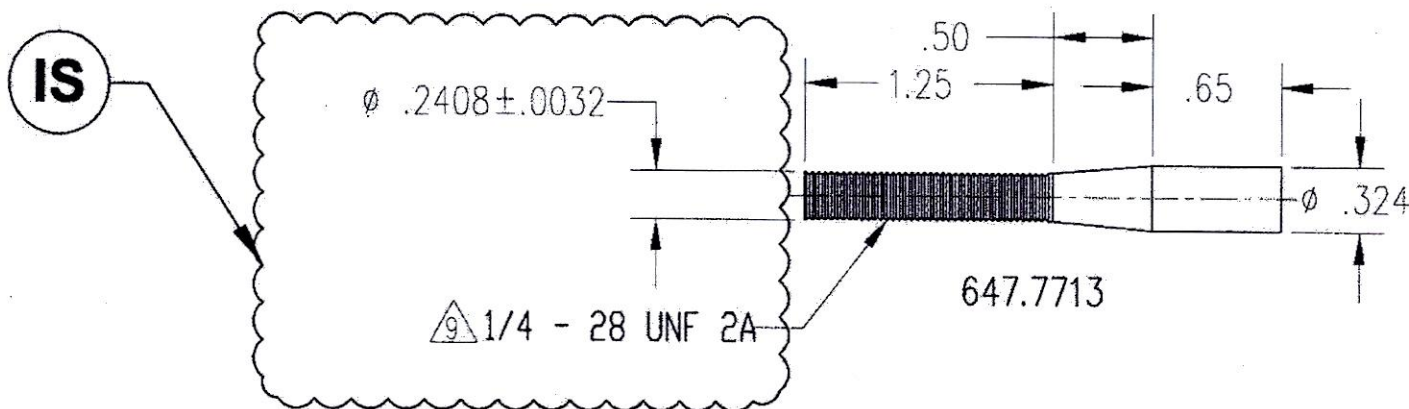
ECR:

16-028

ACTION LIST:

1.

SHEET 2, ZONE D4 IS:



DOCUMENTS EFFECTED:

☐ PATTERN

☐ MDL

☐ INSTALL INSTRU

☐ ICA

☐ BOM

CHANGE CATEGORY

☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED

☐ YES

☒ NO



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

ENGINEERING CHANGE NOTICE NO.

05110

SHEET 1 OF 1

DWG NO. 647.7700

REV: A

PREPARED
BY

A. QUAN

DATE: 08/21/15

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: STRUT ASSY

APPROVED BY:

ENGR

MFG

QC

EFF.

CURRENT ORDER

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

REASON: REVISED FINISH CALLOUT AS PER ECR 15-209

SHEET 1, NOTES IS:

ACTION: UPDATE MO & WO

NOTES:

- 1 MATERIAL: 4130 STEEL PER AMS-T-6736, .50" OD, .083" WALL THK.
- 2 MATERIAL: 4130 STEEL PER AMS-T-6736, .375" OD, .075" WALL THK.
- 3 MATERIAL: 4130 STEEL PER AMS-T-6736, .324" OD.
- 4 FINISH: PRIME IAW MIL-P-2337J TYPE I CLASS N; 1-2 MIL MAX
5. DEBURR AND BREAK ALL SHARP EDGES
6. IDENTIFY IAW MPP-120.
- 7 WELD IAW MIL-STD-2219. TIG WELD WITH FILLER ROD
- 8 FINISH: CAD PLATE IAW QQ-P-416F CLASS I TYPE II
- 9 MASK THREAD PRIOR TO FINISH

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 164658
LM 17/7/27

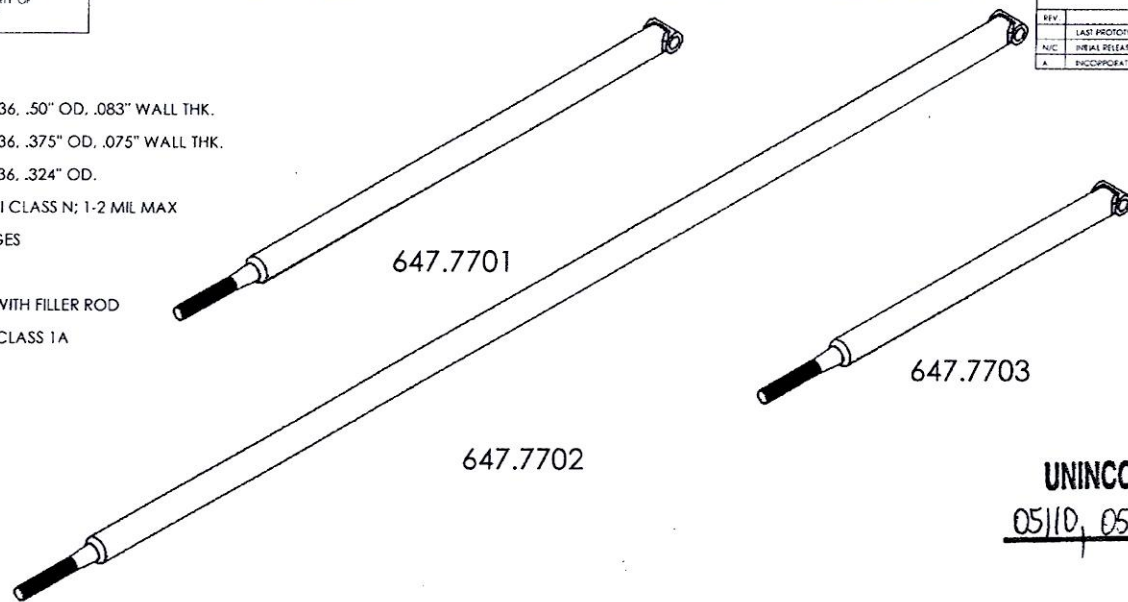
F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION
DOCUMENTS EFFECTED: ☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM					
CHANGE CATEGORY ☐ MAJOR ☐ MINOR				DER REVIEW REQUIRED ☐ YES ☐ NO	

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NOTES:

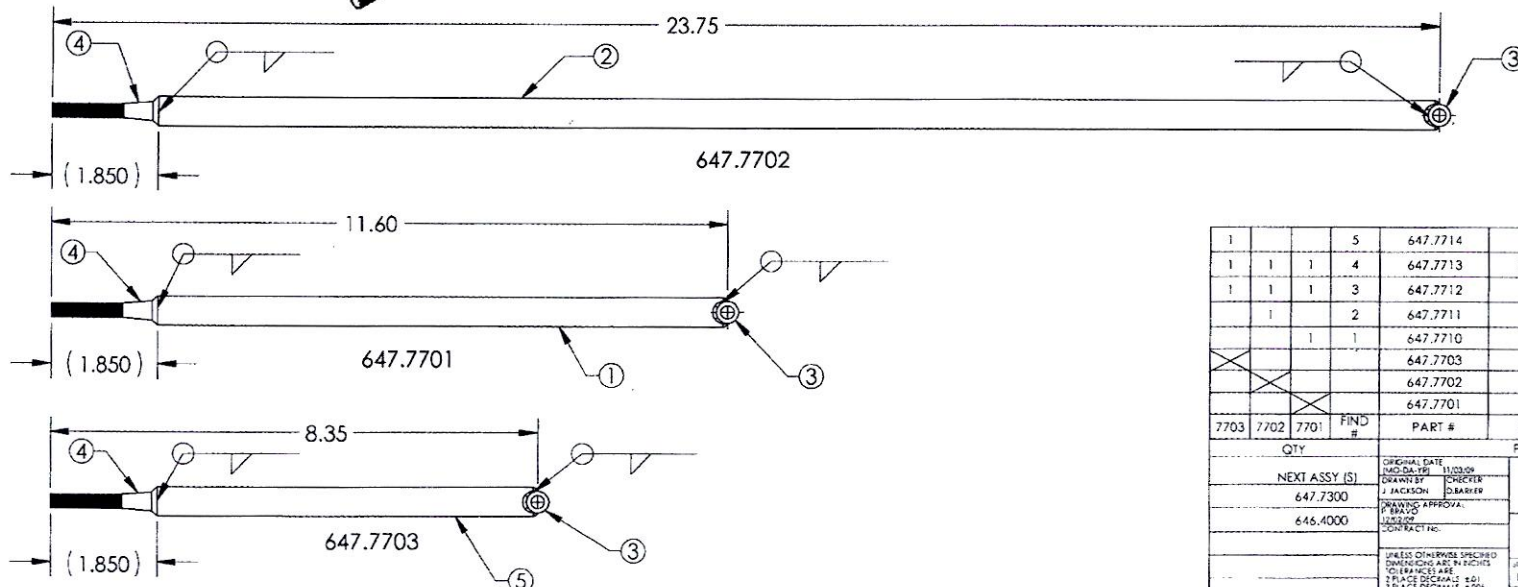
- △ MATERIAL: 4130 STEEL PER AMS-T-6736, .50" OD, .083" WALL THK.
- △ MATERIAL: 4130 STEEL PER AMS-T-6736, .375" OD, .075" WALL THK.
- △ MATERIAL: 4130 STEEL PER AMS-T-6736, .324" OD.
- △ FINISH: PRIME IAW MIL-P-2337J TYPE I CLASS N; 1-2 MIL MAX
- 5. DEBURR AND BREAK ALL SHARP EDGES
- 6. IDENTIFY IAW MPP-120.
- △ WELD IAW MIL-STD-2219, TIG WELD WITH FILLER ROD
- △ FINISH: CAD PLATE IAW MIL-C-5541 CLASS 1A
- △ MASK THREAD PRIOR TO FINISH

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
1	LAST PROTOTYPE REVISION PER		NIC
NIC	INITIAL RELEASE	12/02/08	P. BEAVO
A	INCORPORATED ECN(047)	11/13/14	P. BEAVO



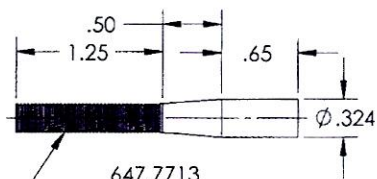
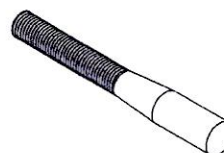
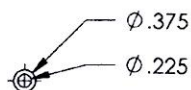
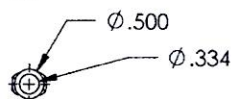
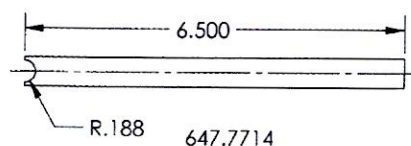
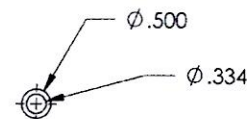
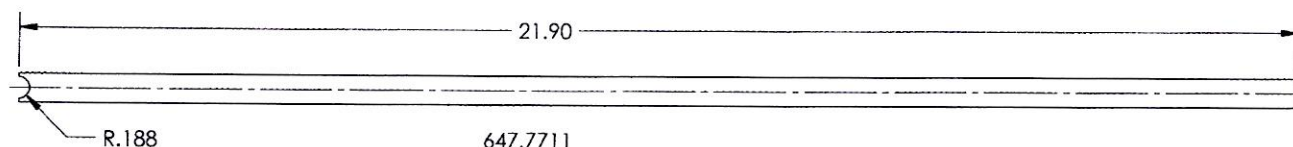
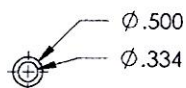
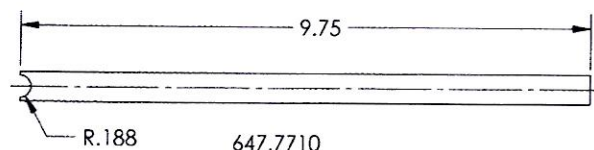
UNINCORPORATED ECN(s)

05/10, 05397,



1			5	647.7714	STRUT TUBE	△	
1	1	1	4	647.7713	STRUT THREAD	△	△
1	1	1	3	647.7712	STRUT TUBE	△	
			2	647.7711	STRUT TUBE	△	
			1	647.7710	STRUT TUBE	△	
				647.7703	STRUT ASSY		△△
				647.7702	STRUT ASSY		△△
				647.7701	STRUT ASSY		△△
7703	7702	7701	FIND #	PART #	DESCRIPTION	MAT'L	SPEC.
QTY				PARTS LIST			
NEXT ASSY (S)				APICAL INDUSTRIES			
647.7300				2608 TEMPLE HEIGHTS DR.			
646.4000				OCEANSIDE, CA. 92056-3512 (760)724-5300			
				STRUT ASSY			
				SCALE NONE			
				SHEET 1 OF 2			

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1/4 - 28 THREAD

ORIGINAL DATE UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DECIMALS ARE .01 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300 STRUT ASSY CONTRACT NO. SCALE: NONE	DWG. NO. 647.7700 SHEET 2 OF 2
---	--	---



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO37553**

Purchase Order Date 8/25/2017

PO Print Date 8/28/2017

Page Number 1 of 2

Order From : VC-ALT01
GROUP ALTECH
2455 HALPERN
ST LAURENT, MONTREAL H4S 1N9

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

REVISED

Contact Name
Vendor Phone 514-335-3666

Ship To Contact
Ship To Phone
Ship Via:
Ship Acct:

Buyer Chantal Lavoie
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB FOB Origin

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	163807	647.7703 STRUT	9/7/2017 Yes 9/7/2017		4.00	\$12.50	\$50.00
CAD PLATE IAW QQ-P-416F CLASS I TYPE II note: cad plate should not be too thick around tread							
Line Total:							\$50.00
2	164658	647.7703 STRUT	9/7/2017 Yes 9/7/2017		4.00	\$12.50	\$50.00
CAD PLATE IAW QQ-P-416F CLASS I TYPE II note: cad plate should not be too thick around tread							
Line Total:							\$50.00
3	164659	647.7703 STRUT	9/7/2017 Yes 9/7/2017		4.00	\$12.50	\$50.00
CAD PLATE IAW QQ-P-416F CLASS I TYPE II note: cad plate should not be too thick around tread							

Note:

8/28/2017



Certificat de Conformité / Certificate of Compliance



Bon de Livraison / Packing Slip

002174-1

2455, Rue Halpern | Saint-Laurent | Québec | H4S 1N9
 Tel: 514-335-3666 Fax: 514-335-3868
 www.groupaltech.com

Livré à / Ship to

DART AEROSPACE LTD

1270 ABERDEEN STREET
 HAWKESBURY, ON, K6A1K7
 CANADA

Tel.: 613-632-5200 Fax.:

Client / Customer:

DART AEROSPACE LTD

1270 ABERDEEN STREET
 HAWKESBURY, ON, K6A1K7
 CANADA

BUYER:

Date expedition Ship date		Créé Par Generated By		Transport / No de Compte Courier / Acc. No.		Bon de commande Client Customer Purchase Order No.				
06-Sep-2017		Ross Montieth				37553				
#Ligne Line#	No. de Série / # Pièce Part Number /Line Item Details Job # / Ref #	Description pièce(s)		CATG. U/M	Comm. /Ordered	Exp/ Shipped	Quantités / Quantities Qté NC/ NC Qty		Qté Scrap/	À venir / Back Order
1	647.7703 Rev.	647.7703 01 -CAD YELLOW 500 [CADMIUM YELLOW 500]		CADMIUM CH	12	12	0		0	0

SPN-9-11.
4X

Notes Additionnelles / Additional Notes

Epaisseur réelle
Actual Thickness

Inspecteur Qualité
Quality Inspector

Réçu par
Received By

Nous certifions que les pièces énumérées ci-dessus ont été traitées en conformité avec votre commande et vos spécifications et rencontrent les exigences.
 Notre responsabilité financière et légale ne sera pas supérieure au montant de la facture issue.

We hereby certify that the parts listed above have been process in accordance with your purchase order and specifications and are in conformance with your requirements.
 Our financial and legal responsibility will not be higher than the amount of invoice.